

Appl. No. 10/781,613
 Docket No. CM2603CQ
 Arndt. dated October 23, 2006
 Reply to Office Action mailed on June 28, 2006
 Customer No. 27752

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REMARKS

Claims 1-12 are pending in the present application. No additional claims fee is believed to be due.

The Rejection under 35 U.S.C. 103(a) over Stumpf

Claims 1-4 and 10-12 have been rejected under 35 USC §103(a) as being unpatentable over Stumpf, U.S. Patent No. 3,687,754 (hereinafter "Stumpf"). Applicants respectfully traverse this rejection, as the reference does not establish a *prima facie* case of obviousness. Specifically, it does not teach or suggest all of Applicants' claim limitations, as required under MPEP 2143.03. Stumpf does not teach or suggest a loop member (100) for a mechanical fastener comprising a nonwoven web (105), said nonwoven web (105) having a pattern of intersecting bond lines (110), said pattern comprising a first plurality of non-intersecting continuous bond lines (120) and a second plurality of non-intersecting continuous bond lines (130), each non-intersecting continuous bond line of said first plurality intersecting each non-intersecting continuous bond line of said second plurality, said pattern of intersecting bond lines (110) defining unbonded pattern elements (140), each of said pattern elements (140) being at least partially bounded by a non-linear segment (150) of one of said bond lines (120, 130), wherein said pattern includes at least 3.2 pattern elements per square centimeter. Therefore, a *prima facie* case of obviousness has not been established.

The Office Action states that the density of pattern elements, i.e., the amount of adhesive lines applied to the loop member, is considered a design effect variable. The Office Action further states that it would have been an obvious design choice to increase or decrease the number of pattern elements to increase or decrease the bond strength of Stumpf's final product in order to vary the strength of the product for different uses. Applicants respectfully disagree. The claim element requiring that the pattern includes at least 3.2 pattern elements per square centimeter, is not a mere matter of design choice. The density of pattern elements in the present invention is critical for loop functionality with hooks. Further, bonding patterns are areas that can significantly reduce or destroy the ability for hook engagement. Thus, the percent bonded area needs to be minimized with a

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maximized contour to yield the highest loop density at lowest percent bond area. Stumpf does not teach or suggest the criticality of the claimed density.

The Office Action further states that it would have been an obvious design choice for Stumpf to vary the amount of adhesive applied to the material, i.e., to vary the density of the pattern element, which is directly proportional to the amount of adhesive applied. Applicants respectfully disagree. In the present invention, a high amount of adhesive applied can result in a non-functional loop area, as the loops may become glued down. Bonded areas are areas of lower or zero functionality. Stumpf does not teach or suggest a critical element of the present invention that amplitudes of a pattern are increased to maximize the benefit of tessellating patterns and minimize the amount of non-functional loop areas. Further, the adhesive areas and related patterns taught in Stumpf are all creating outwardly looped elements. Thus, the complete web is regarded as functionally independent of how large or small the adhesive area is defined. Therefore, Stumpf does not consider the optimization of contour vs. bond area, and the benefit of the sinusoidal pattern taught in the present invention is not required or taught in Stumpf.

Further, Table I and the Figure 8 of the present invention demonstrate the desired effect of increasing the amplitude for all lines of a sinusoidal pattern. As described on page 16, lines 20-29 of the specification, the graph in Figure 8 indicates that as the non-linearity of the bond lines increases, the contour increases at a faster rate than the overall bond area percentage. Thus, for a given increase in overall bond area per unit area, there is a correspondingly greater increase in the number of fibers anchored and available for more reliable hook engagement. Therefore, the percent bonded area optimization vs. contour is critical as it defines the overall functionality of the web as a loop member.

The Stumpf reference does not teach or suggest all of Applicants' claim limitations. Therefore, Applicants contend that the claimed invention is unobvious and that the rejection should be withdrawn.

The Rejection under 35 U.S.C. 103(a) over King et al.

Claims 1, 3, 4, and 7-11 have been rejected under 35 USC §103(a) as being unpatentable over King et al., U.S. Patent No. 5,595,567 (hereinafter "King"). Applicants
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respectfully traverse this rejection, as the reference does not establish a *prima facie* case of obviousness. Specifically, it does not teach or suggest all of Applicants' claim limitations, as required under MPEP 2143.03. King does not teach or suggest a loop member for a mechanical fastener comprising a nonwoven web having a pattern of intersecting bonds wherein said pattern includes at least 3.2 pattern elements per square centimeter. Therefore, a *prima facie* case of obviousness has not been established.

The Office Action states that the density of the pattern elements, i.e., the amount of adhesive lines applied to the loop member, is considered a design effect variable. As discussed above, Applicants respectfully disagree. The specific density of the pattern elements in the present invention is not a mere design variable. Rather, the claimed specific density of the present invention allows for maximization of the integrity and functionality of the loop member. The limitations of adhesives used for bonding is critical in the present invention, as the adhesive bonded area must be significantly reduced in loop functionality to benefit from the current invention.

The King reference does not teach or suggest all of Applicants' claim limitations. Therefore, Applicants contend that the claimed invention is unobvious and that the rejection should be withdrawn.

The Rejection under 35 U.S.C. 103(a) over King et al. in view of Stumpf

Claims 2 and 12 have been rejected under 35 USC §103(a) as being unpatentable over King et al. in view of Stumpf. Applicants respectfully traverse this rejection, as the reference does not establish a *prima facie* case of obviousness. Specifically, it does not teach or suggest all of Applicants' claim limitations, as required under MPEP 2143.03.

The Office Action states that it would have been an obvious design choice to substitute a sinusoidal wave pattern of adhesive, as taught by Stumpf, in place of King's straight/curve line pattern of adhesive, since the specification fails to clearly and specifically state the criticality of having a sinusoidal pattern over a straight/curve pattern and it appears that either pattern of adhesive works equally as well as the other. Applicants respectfully disagree. Page 12, lines 24-25 of the instant specification explain that the present invention

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addresses the technical contradiction of how to increase the number of fibers bonded without proportionally increasing the bond area.

Further, as discussed above, Table 1 and the Figure 8 of the present invention demonstrate the desired effect of increasing the amplitude for all lines of a sinusoidal pattern. As described on page 16, lines 20-29 of the specification, the graph in Figure 8 indicates that as the non-linearity of the bond lines increases, the contour increases at a faster rate than the overall bond area percentage. Thus, for a given increase in overall bond area per unit area, there is a correspondingly greater increase in the number of fibers anchored and available for more reliable hook engagement. Therefore, the percent bonded area optimization vs. contour is critical as it defines the overall functionality of the web as a loop member.

Neither King nor Stumpf, alone or in combination, teach or suggest a loop member for a mechanical fastener comprising a nonwoven web having a pattern of intersecting bonds wherein said pattern includes at least 3.2 pattern elements per square centimeter. Therefore, Applicants contend that the claimed invention is unobvious and that the rejection should be withdrawn.

CONCLUSION

In view of the above, Applicants respectfully submit that each of the issues raised by the Office Action has been addressed. Reconsideration and allowance of each of the pending claims is respectfully requested.

Respectfully submitted,
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